

CLIMATOLOGICAL DATA FOR OCTOBER, 1913.

DISTRICT NO. 3, OHIO VALLEY.

PROF. FERDINAND J. WALZ, District Editor.

GENERAL SUMMARY.

During the first half of October, 1913, the weather in the Ohio Valley was unusually warm and generally fair, while the last half of the month was characterized by excessive cloudiness, rains, and unseasonably cold and generally disagreeable weather. The protracted rains that set in about the 18th were general and copious over the whole of the district and broke the severe drought that had prevailed over so much of the district during nearly the entire summer. While showers during the early part of the month had revived pastures and aided in putting the ground in condition for fall seeding, these were the first rains to replenish the dried-up streams and nearly exhausted water supply.

Frosts, heavy in some localities, occurred over much of the district near the end of the second week, but the growing season was not really brought to a close till the unusually severe cold weather of the 21st-23d, when freezing temperatures and killing frosts were general and when there were snow flurries over practically all of the district and in some localities, especially the mountain regions, there was sufficient to cover the ground to a depth of 2 or 3 inches. The frost coming after the crops had been harvested, caused no damage of consequence.

The more important general storm areas passing over the district during the month were: (1) A trough of low pressure passed eastward with main center of action traversing the northern Lake region and caused moderate but general rains in the Ohio Valley on the 11th-12th; (2) a well-defined area of low pressure moved northeastward from the central Mississippi Valley to the St. Lawrence Valley the 17th-18th, attended by moderate rains; (3) a low pressure area moved from the south Atlantic States due north to the lower Lakes the 19th-20th, increasing in strength, and caused general rains in the Ohio Valley; (4) a trough of low pressure developed in the southwest and drifting slowly across the southern portion of the country from Texas to the middle Atlantic coast caused rains daily in the Ohio Valley in the period 22d-25th, and (5) a barometric disturbance moved from the central Mississippi Valley to the lower Lake region the 26th-28th attended by general rains. High pressure areas dominated the weather conditions in the periods 2d-4th, 12th-15th, 21st, 28th, and 29th (p. m.) to 31st, inclusive.

The following table summarizes the chief features of meteorological interest for the several sections of the district:

Portions of States included in the Ohio River Basin.	Temperature.				Precipitation.			
	Average.	Departure.	Highest.	Lowest.	Average.	Departure.	Greatest monthly.	Least monthly.
New York.....	51.3	+2.3	83	24	5.23	+2.10	5.72	4.74
Pennsylvania.....	53.6	+1.6	88	16	5.15	+2.43	8.53	3.15
Maryland.....	50.0	+1.1	81	13	5.60	+3.03	5.68	5.51
West Virginia.....	54.6	+0.3	92	10	4.34	+1.70	6.71	1.78
Ohio.....	54.4	+1.0	96	18	3.12	+0.78	5.18	1.43
Indiana.....	55.1	0.0	94	20	3.45	+0.74	5.31	2.40
Illinois.....	55.3	-1.0	91	21	4.11	+1.67	6.43	2.67
Kentucky.....	56.9	-0.7	97	23	3.55	+1.26	5.62	2.41
Tennessee.....	57.6	-1.0	94	24	3.92	+0.51	6.45	1.36
Alabama.....	57.9	-3.5	87	25	2.05	-0.53	3.33	1.28
Georgia.....								
North Carolina.....	53.9	-1.7	85	20	3.27	+0.04	5.41	2.29
Virginia.....	52.6	-0.1	84	13	3.05	-0.04	6.23	1.53

TEMPERATURE.

The temperature averaged somewhat above normal over the northern portion of the district, the greatest plus departures being in the western portions of New York and Pennsylvania. It was practically normal in Indiana and Virginia, but was below normal in Illinois, Kentucky, and sections to the southward, the coldest section being Alabama, where the departure was -3.5° . There were marked extremes, however, for the district as a whole and in the various sections. In all sections, as instanced in West Virginia, where the extremes were 92° and 10° , respectively, the monthly range in temperature was extraordinarily large. Maximum temperatures of 90° and over occurred in Indiana, Illinois, Ohio, Kentucky, West Virginia, and Tennessee and from 81° to 88° in the rest of the sections, while minimum temperatures in the several sections ranged between 10° and 25° . Temperatures were near normal during the first three or four days of the month, but unseasonably warm weather set in on the 5th and continued, with the exception of two or three days about the 12th-14th, until the 17th, inclusive. This unseasonably warm wave was especially pronounced during the period 7th-10th, when daily departures from normal ranged from $+10^{\circ}$ to $+18^{\circ}$ and maximum temperatures ranging between 85° and 97° were registered quite generally over the district. During

the break in the warm wave about the 12th-14th night temperatures were quite low and frosts formed at many places, being heavy in some localities, but day temperatures continued rather high. The diurnal range in temperature during this period was a noteworthy feature of the month, being frequently 40° or more. After the 17th temperatures were mostly below normal with two distinct and sharp cold waves. The first of these cold waves occurred in the period 19th-22d and killing frosts and temperatures much below freezing were registered in all parts of the district. Minimum temperatures in this period ranged between 10° and 25°, a minimum of 10° being registered in West Virginia, 13° in southwestern Virginia and western Maryland, and from 18° to 25° in each of the other sections. Temperatures of freezing or below were registered at practically all stations on two or three nights. The second of these cold waves occurred in the period 29th-31st, when freezing temperatures and killing frosts were again general. This cold wave was more pronounced in Indiana and Illinois than the preceding one, the lowest temperature for the month being reached at practically all stations in Illinois and a large number of stations in Indiana on the 31st.

PRECIPITATION.

Precipitation averaged considerably above normal over the northeastern portion of the district, somewhat above normal over Illinois and Kentucky, and slightly above normal over the rest of the district except Alabama, where there was a small deficiency. The precipitation was well distributed, and varied in amount generally from 2 to 4.5 inches, with some localities, mostly in the northeastern sections, where it was 5 inches or more, and a few limited areas, mostly in the southwestern part of the district, where it was below 2 inches.

The total rainfall of the month varied between 8.53 inches at Johnstown, Pa., and 1.28 inches at Guntersville, Ala. Twenty-four hour precipitation equaling 2.50 inches occurred at only a few stations, the greatest being 2.82 inches at Highlands, N. C., on the 24th.

Snow occurred quite generally over the district on the 21st, which was the first widespread snow of the season. While the snowfall was inappreciable in amount at most places and did not cover the ground, there were from 3 to 5 inches in the mountain and bordering sections, the heaviest fall reported being 6 inches at Pickens, W. Va. There were from 1 to 3 inches over the mountain sections from western Pennsylvania to North Carolina and eastern Tennessee.

MISCELLANEOUS.

Thunderstorms were unusually frequent during the first three days of the month over Ohio, West Virginia, and the western portions of Pennsylvania and Maryland. Hail attended these storms on several occasions. One death resulted from lightning at Mount Pleasant, Pa., and several buildings and barns were burned by lightning in Pennsylvania and Ohio during these storms.

Thunderstorms also occurred in Pennsylvania on the 25th and 26th; in western Maryland on the 20th-25th; in West Virginia on the 12th, 15th, 19th, 25th, and 28th;

in Ohio on the 11th, 12th, and 16th; in Indiana on the 11th and 17th; in Illinois on the 10th, 11th, and 22d; in Kentucky on the 1st, 17th, 18th, and 27th; in Tennessee on the 17th, and in North Carolina on the 19th, 24th, and 27th.

Several collisions and one serious train wreck were caused at Danville, Ill., by dense fog on the morning of the 9th. Dense fog obtained on several days over considerable areas, especially bordering the Ohio River. A damaging wind storm occurred in Vermilion County, Ill., on the 10th.

RIVERS.

The streams in the upper portion of the Ohio Valley were at low or moderate stages during the first three weeks, but rose considerably during the last decade. The rainfall over the Cumberland and Tennessee watersheds was above normal, but had little or no effect on stages in those rivers. The Cumberland River was practically stationary throughout the month, while the Tennessee was low until near the close, when a slight rise set in that permitted navigation at Chattanooga to be opened on the 28th.

The last gate of the dam at Hales Bar, in the Tennessee River near Chattanooga, was closed at 2 p. m. of the 28th. This dam is expected to produce a permanent pool stage at Chattanooga.

HOCKING RIVER IMPROVEMENT.

The following description of an improvement that is being made in the Hocking River in Fairfield County has been furnished by Mr. Julian Griggs, city engineer of Lancaster, Ohio:

The commissioners of Fairfield County, Ohio, are improving the drainage of the Hocking River at Lancaster by a ditch which deepens and straightens that stream for a distance of about 7 miles. The work is being done by a dipper dredge floating down the stream, which has an average fall of about 5½ feet per mile.

The dredged channel at its upper end beginning at Hookers Station, on the Hocking Valley Railway, 5½ miles northwest of Lancaster, was made 40 feet in width and about 6 feet deep, increasing to 50 feet by 7 feet lower down, and to 60 feet by 8 feet for 1½ miles after passing the mouth of Baldwins Run. The improvement terminates about 1½ miles below Lancaster.

There were eight highway and five railway bridges over the stream which had to be passed. The most of them were moved endwise to the right or left by the contractor for the improvement. Some of them were lifted and held suspended by a railway derrick car at each end of the bridge while the dredge with mast lowered passed beneath in a channel which had been excavated by hand.

The engineer's estimate was about 200,000 cubic yards of excavation and the contract price for the job is \$32,000, making the cost for the excavation about 16 cents per cubic yard, which includes all overhead charges and the cost of the necessary moving off and back of existing bridges.

The work as planned may be criticized in that it failed to make provision for the entrance of side streams, which will now deepen their own channels and carry the excavated material forward into the main ditch, thus tending to form bars and fill the new channel. However, Hunters Run, one of the largest and most important tributaries of the Hocking River from the west, by a subsequent contract was straightened and deepened for about 2,100 feet near its mouth in an adequate and effective manner.

The cost of the improvement when finished will be assessed upon adjacent land according to benefits. Two thousand acres, more or less, will be benefited by the improvement, and about one-half of this area, by tile drainage into the main ditch, can be converted from swamp into the most fertile of river bottoms.

TABLE 1.—Climatological data for October, 1913. District No. 3, Ohio Valley.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.					Precipitation, in inches.					Sky.	Prevailing wind direction.	Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeted.	Number of rainy days, 0.01 inch or more.	Number of partly cloudy days.	Number of cloudy days.	
<i>New York.</i>																		
Allegany.	Cattaraugus.	1,441	7	51.6		81	5†	25	14	43	4.74	+ 2.10	0.82	1.18	16	7	17	nw. w. nw.
Bolivar.	Allegany.	1,800	19	51.0	+ 2.3	83	5	24	14	46	5.24	+ 2.10	0.92	1.16	16	8	17	c. e. whitney. c. f. hoffman. john w. alles.
Olean.	Cattaraugus.	1,402	5								5.72				15			
<i>Pennsylvania.</i>																		
Aleppo.	Green.	1,135	12	53.5	+ 0.2	85	5†	21	22	46	4.41	+ 2.00	1.06	T.	11	16	1	nw. w. sw.
Baldwin.	Butler.	1,404	7	52.5		78	5†	26	22	43	6.45		1.50	T.	15	7	10	s. h. templeton. u. s. engineer.
Beaver Dam.	Beaver.	674	19								3.53	+ 1.41	0.79	T.	0	16	5	1 25
Brookville.	Jefferson.	1,173	22	54.0		86 ^a	5	24	22	51 ^b	5.20	+ 2.60	1.30	T.	0	12		w. sw.
California.	Washington.	770	10	57.8	+ 2.7	85	6	27	22	43	3.15	+ 0.89	2.10	T.	6	17	9	5 w. w.
Clarion.	Clarion.	1,078	28								5.08	+ 2.07	0.96	T.	13	13	3	15
Claysville.	Washington.	1,127	9	54.2		86	10	23	22	43	4.36		0.99	T.	14	10	7	14 w. w.
Confluence.	Somerset.	1,352	29								6.21	+ 3.47	1.27	T.	0	14	9	3 19
Franklin.	Venango.	955	38	54.4	+ 2.5	88	5	26	22	64	5.27	+ 2.37	0.84	T.	16	11	5	15 nw. nw.
Freeport.	Armstrong.	772	40								5.42	+ 2.93	1.00	T.	11	7	1	23
Greensburg.	Green.	768	24								4.64	+ 1.98	1.18	T.	0	12	3	14 se. sw.
Greensburg.	Westmoreland.	1,100	6	54.6		82	5	27	22	40	5.37		1.05	T.	16	11	7	13 nw.
Greenville.	Mercer.	950	17	52.4	+ 2.8	84	6†	25	22	41	4.69	+ 1.47	1.07	T.	16	13	4	14 nw. nw.
Indiana.	Indiana.	1,350	16	54.3	+ 2.8	86	5	23	22	43	5.87	+ 2.18	1.03	T.	13	13	6	12 sw. w.
Johnstown.	Cambria.	1,184	25	54.6	+ 1.3	85	5	27	22	42	8.53	+ 5.94	1.94	T.	19	9	10	12 sw. s.
Lock No. 4.	Washington.	718	27								4.04	+ 1.50	1.01	T.	0	10	2	19 s.
Lycippus.	Westmoreland.	1,420	21	52.6	- 1.8	77	10	28	22	25	5.98	+ 3.36	1.30	T.	15			murray forbes. c. j. moore.
Mosgrove.	Armstrong.	775	2								5.42		1.15	T.	0	14	7	0 24 sw.
Pittsburgh.	Allegheny.	842	43	54.4	+ 0.5	84	10	32	22	31	4.26	+ 1.90	1.00	T.	12	9	2	16 nw. nw.
Punxsutawney.	Jefferson.	0	51.8			87	10	16	30	54	4.81		1.72	T.	8	13	2	16 nw. nw.
Ridgway.	Elk.	0	52.4			85	5	27	22	48	4.05		0.78	T.	0	14	12 ^c	f. j. eagan. j. g. apple.
Saegerstown.	Crawford.	1,110	22	51.2	+ 1.0	82	6†	23	22	40	5.88	+ 2.75	1.19	T.	19	7	7	17 nw. nw.
Sharon.	Mercer.	940	2	53.2		81	10	28	22	37	5.57		1.58	T.	16	3	3	25 sw. sw.
Somerset.	Somerset.	2,250	57	50.8	+ 2.4	82	5	20	22	47	5.44	+ 2.64	1.53	T.	14	3	8	12 nw. nw.
Uniorntown.	Fayette.	998	25	57.4	+ 3.4	83	5	26	22	40	5.03	+ 2.03	0.98	T.	10	16	2	13 w. w.
Warren.	Warren.	1,137	24	52.0	+ 1.6	85	7†	21	22	54	5.58	+ 2.59	0.90	T.	3.0	14	12	0 19 w. w. anna simpson.
<i>Maryland.</i>																		
Deer Park.	Garrett.	2,457	20	49.4	+ 1.1	79	11	13	22	44	5.51	+ 3.24	0.77	T.	13			s. p. specht.
Grantsville.	do.	2,351	20	50.4	+ 0.5	81	5	20	22	44	5.62	+ 3.19	0.90	T.	12	7	5	19 w. j. s. miller.
Oakland.	do.	2,461	14	50.2	+ 1.7	79	5	16	22	43	5.68	+ 2.68	0.95	T.	16	9	9	13 w. r. e. weber.
<i>West Virginia.</i>																		
Bancroft.	Putnam.	574	10	59.2	+ 1.7	90	7†	27	22	48	3.40	+ 0.66	1.20	T.	10	1	0	30 ne. r. e. dent.
Beekley.	Raleigh.	2,440	14	53.6	- 0.4	88	12	10	22	58	1.78	- 0.66	1.00	T.	6	18	0	13 w. john a. ewart.
Bens Run.	Pleasants.	622	12	56.2	+ 0.3	86	10	26	22	37	4.75	+ 1.92	1.14	T.	0	12	19	3 9 w. j. d. riggs.
Bluefield.	Mercer.	2,563	19	54.8 ^d	- 0.6	82 ^d	6†	22	22	42 ^d	2.55	+ 0.03	0.75	T.	0	9	16 ^e	Norfolk & Western Ry. h. A. darnall.
Buckhammon.	Upshur.	1,472	23	53.0	+ 0.2	81	10	21	22	43	5.65	+ 2.38	1.15	T.	10	14	2	15 sw. van a. zevely.
Cairo.	Ritchie.	667	11	58.0	+ 0.7	90	11	28	22	45	3.68	+ 0.70	0.83	T.	12	6	12	13 sw. g. W. sherwood.
Central Station.	Doddridge.	900	11								4.58	+ 2.55		T.	12	10		r. c. hewes. r. l. Reed.
Charleston.	Kanawha.	598	28	59.2	+ 1.0	82	10†	32	22	45	5.76	+ 3.21	2.22	T.	12	10	7	14 e. j. M. Reed.
Creston.	Wirt.	612	12	57.2	+ 2.8	92	10	22	22	47	4.96	+ 2.57	1.48	T.	0	12	3	16 w. c. T. Perry.
Cube.	Jackson.	544	13	55.2	+ 0.4	87	10	22	22	45	3.36	+ 0.71	0.74	T.	11	0	16	9 w. l. A. Smith.
Doane.	Wayne.	6												T.	11	12	3	16 w. J. J. Lincoln.
Elkhorn.	McDowell.	1,933	21	56.1	+ 0.6	80	5†	27	22	37	3.23	+ 0.69	0.80	T.	8	14	7	10 w. U. S. Weather Bureau.
Elkins.	Randolph.	1,940	14	52.6	+ 1.3	83	10	20	22	43	6.23	+ 3.81	1.41	T.	15	13	2	16 w. F. P. Hall.
Fairmont.	Marion.	879	21	55.6		90	10	23	22	52	3.93	+ 1.46	0.89	T.	11	16	1	14 n. joe N. craddock.
Glenville.	Gilmer.	738	24	55.6	+ 0.6	82	5	21	22	36	3.59	+ 1.73	0.97	T.	0	5	11	5 w. Joseph gerken.
Grafton.	Taylor.	985	21	56.6	+ 1.7	91	10	31	14	39	5.51	+ 2.91	0.80	T.	12	14	0	17 w. Arthur George.
Green Sulphur Springs.	Summers.	1,600	18	53.4 ^d	- 1.0	81	11	19	22	48 ^d	3.99	+ 2.25	0.76	T.	0	15	10 ^a	J. B. Lavender, C. E. Ferguson.
Hinton.	do.	1,400	24	55.4	- 1.0	84	10	27	22	42	3.85	+ 1.56	0.86	T.	15	10	8 ^a	Arthur George.
Holcomb.	Nicholas.	1	51.6 ^a		81 ^a	10	20	22	44	6.22			2.60	T.	11	12	3	16 sw. j. E. Ferguson.
Huntington.	Cabell.	510	18	55.1	- 1.0	84	10	28	22	40	3.20	+ 1.08	0.68	T.	10	17	2	12 w. L. H. Hutchinson.
Lewisburg.	Greenbrier.	2,200	13	53.0		80	11	18	22	43	4.10	+ 1.44	1.17	T.	8	20	7	4 w. Geo. T. Aragabrite.
Logan.	Logan.	665	11	59.6	+ 0.7	86	9†	29	22	48	3.28	+ 2.88	1.77	T.	11	18	6	7 e. dr. J. E. McDonald.
Lost Creek.	Harrison.	1,033	17	53.3	- 1.1	88	10	16	22	46	3.81	+ 1.43	0.76	T.	10	17	2	12 w. Allen Smith.
Madison.	Boone.	704	8	53.2 ^a		84	7	20	22	47 ^a	4.80		1.95	T.	1.0	11	6 ^b	s. E. Bradley.
Mannington.	Marion.	967	11	54.2 ^a	+ 0.7	84 ^a	10	21	22	43 ^a	4.41	+ 2.09	0.84	T.	0	10	15 ^c	Jas. A. Morgan.
Marlinton.	Pocahontas.	2,169	17	47.1 ^f		73	10†	12	22	40 ^f	5.43	+ 2.83	1.40	T.	0	10	15 ^c	C. J. McCarty.
Morgantown.	Monongalia.	1,250	39	57.4 ^a	+ 2.5	86 ^b	10	33 ^a	23 ^a	40 ^b	4.22	+ 1.26	1.19	T.	0	13	9	12 ^d nw. Prof. Edgar L. Andrews
Moundsville.	Marshall.	640	11	56.3	+ 0.7	89	8	24	22	47	4.59	+ 1.80	0.88	T.	0	13	5	14 w. M. L. Brown.
New Cumberland.	Hancock.	987	14	55.0	+ 1.0	84	5†	26	22	41	6.05	+ 3.50	1.50	T.	0	12	9	13 s. Frank S. Evans.
New Martinsville.	Wetzel.	634	20	56.9	+ 0.4	88	10†	24	22	45	3.95	+ 1.51	1.15	T.	0	11	13	17 s. Wm. Ankrom.
Nuttallburg.	Fayette.	2,252	21	51.0 ^a		71	10	21	22	37 ^a	4.10	+ 1.76	1.45	T.	7	13 ^e	Miss Donna Tully.	
Parkersburg.	Wood.	638	25	55.8	+ 1.2	85	10	28	22	42	2.55	+ 0.11	1.31	T.	13	5	15	U. S. Weather Bureau.
Parsons.	Tucker.	1,662	14	52.8	+ 0.3	81	10	20	22	40	6.00	+ 3.38	1.00	T.	14	11	4	16

TABLE I.—Climatological data for October, 1913. District No. 3—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.		
				Mean.			Departure from the normal.			Total.			Departure from the normal.			Greatest in 24 hours.				
				Mean.	Highest.	Lowest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeasured.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Ohio.																				
Ameriville.	Athens.	630	9	54.4	90	10	19	22	48	2.88	0.91	T.	13	10	9	12	n.w.	F. W. Gibson.		
Ashland.	Ashland.	1,079	13	54.0	+ 2.5	87	6	23	22	3.44	+ 1.19	0.90	T.	11	11	3	17	w.	S. W. Brandt.	
Bangorville.	Richland.	1,380	26	53.5	+ 1.8	83	6	22	23	3.10	+ 0.57	0.67	T.	14	8	12	11	n.w.	S. M. Painter.	
Bellefontaine.	Logan.	1,276	34	53.4	- 0.4	86	10	24	23	3.09	+ 0.47	0.44	2.0	13	10	5	16	n.w.	Cory I. Lane.	
Beverly.	Washington.	637																ne.	Mrs. Ella M. Wilson.	
Bladensburg.	Knox.	1,100	20	52.2	+ 0.7	89	6	22	22	4.82	+ 1.62	0.68	T.	12	9	12	10	n.w.	Miss Mary Elliott.	
Brilliant.	Jefferson.	700		55.0		84	11	24	22	3.22		1.35	T.	5	13	3	15	w.	Mrs. Mary K. Pennell.	
Cadiz.	Harrison.	1,245	9	53.9		83	10	22	22	3.48		1.38	T.	11	13	4	14	n.w.	Harry B. McConnell.	
Cambridge.	Guernsey.	803	21	54.4	+ 1.6	85	5†	20	22	4.16	+ 0.80	0.93	T.	12	8	12	11	...	Samuel Mehaffey.	
Camp Dennison.	Hamilton.	570	20	55.8	+ 0.6	91	10	23	22	3.15	+ 0.96	0.88	0	11	15	6	10	sw.	Henry F. Pinkvoss.	
Canal Dover.	Tuscarawas.	884	20															sw.	Francis L. Bixler.	
Canton.	Stark.	1,089	30	53.2	+ 1.7	84	9†	27	22	4.0	3.98	+ 1.58	0.97	T.	15	15	4	12	n.w.	Carl H. Meyer.
Cardington.	Morrow.	1,010	18	54.6	+ 2.7	85	10	24	21	4.17	+ 2.57	0.60	T.	9	14	1	17	w.	J. W. Shaw.	
Chillicothe.	Ross.	630	10															sw.	Marion Mackey.	
Cincinnati.	Hamilton.	628	42	57.2	+ 0.2	89	10	32	22	3.24	+ 2.71	+ 0.39	0.69	T.	9	9	9	13	se.	U. S. Weather Bureau.
Circleville.	Pickaway.	894	25	55.7	+ 0.8	91	10	24	22	4.33	+ 0.74	0.67	T.	10	15	5	11	s.	Dr. H. R. Clarke.	
Clarington.	Monroe.	600	10	54.2	- 0.9	87	7	23	22	4.48	+ 1.41	1.00	T.	14	13	2	16	sw.	Col. S. Tschappat.	
Columbiana.	Columbiana.	1,114	3	53.1		83	10	25	23	3.7	4.02		0.88	T.	17	12	2	17	n.w.	C. E. Wolfgang.
Columbus.	Franklin.	918	35	54.4	+ 0.3	85	10	29	31	3.01	- 0.30	0.78	T.	12	8	7	16	se.	U. S. Weather Bureau.	
Coshocton.	Coshocton.	770	4															...	Mrs. Ada Jeffries.	
Dayton (1).	Montgomery.	899	2	54.8	+ 0.7	86	10	28	21	3.11	+ 2.15	+ 0.25	0.71	0.2	10	11	9	11	se.	U. S. Weather Bureau.
Dayton (2).	do.	790	20	54.9	+ 0.7	91	10	26	22	4.35	+ 2.83	+ 0.31	0.66	T.	14	12	5	14	w.	Mrs. Edith E. L. Boyer.
Delaware.	Delaware.	896	16	52.8	- 0.7	85	10	23	22	4.1	2.54	+ 0.20	0.56	T.	20	12	5	14	...	DeWitt H. Leas.
Demos.	Belmont.	1,325	25	57.0	+ 4.2	90	7	21	22	4.6	4.28	+ 1.85	0.87	0.2	15	15	3	13	s.	J. T. Dysart.
Dennison.	Tuscarawas.	846	3	54.7		85	9	21	31	4.1	3.29		1.03	T.	15	11	7	13	n.	Water Supply Co.
Frankfort.	Ross.	745	21	57.4	+ 2.8	88	10	25	22	4.6	2.90	+ 0.12	0.68	7	15	2	14	s.	O. A. Cory.	
Gallipolis.	Gallia.	580	1											0	11			w.	Samuel F. Neal.	
Garrettsville.	Portage.	1,005	29															...	S. M. Luther.	
Granville.	Licking.	980	31	54.2	+ 1.6	85	10	30	21†	4.0	3.88	+ 1.45	0.99	T.	10	13	3	15	sw.	Dr. L. E. Davis.
Green.	Adams.	500	20	57.6	+ 1.7	90	10	25	22	4.2	2.50	+ 0.28	0.75	0	5	10	7	14	n.w.	W. F. Kenyon.
Green Hill.	Columbiana.	1,135	20	51.4	+ 0.7	81	9†	22	22	4.1	3.87	+ 1.69	1.00	T.	14	10	6	14	sw.	Jos. E. Bentley.
Greenville.	Darke.	1,060	27	54.2	+ 2.2	85	10	28	21†	3.2	2.90	+ 1.04	0.70	T.	10	6	14	11	s.	Geo. A. Katzenberger.
Hamilton.	Butler.	801	1															...	Earl W. Stout.	
Haydenville.	Hocking.	700	1	54.2		86†	10	19	22	4.2									...	H. W. Stiers.
Hillsboro.	Highland.	1,063	34																...	Carey H. Roush.
Ironon.	Lawrence.	575	30	55.8	+ 0.5	90	10	25	22	4.5	2.94	+ 0.55	0.72	0.2	11	12	11	8	sw.	James Bull.
Kenton.	Hardin.	1,015	21	53.2	+ 0.5	88	10	24	22	3.9	2.41	+ 0.02	0.50	T.	10	12	8	11	n.w.	Frank B. Rarey.
Killbuck.	Holmes.	1,087	20	54.8	+ 2.5	84	8	20	22	4.4	3.72	+ 1.54	0.60	0	13	21	0	10	se.	John A. Schonauer.
Kings Mills.	Warren.	640	1																...	Frank M. See.
Lancaster.	Fairfield.	898	18	54.2	+ 0.2	83	10	25	22	3.4	2.46	+ 0.24	0.60	T.	12	17	1	13	se.	R. L. Renshaw.
McConnellsburg.	Morgan.	710	29	54.6	+ 1.1	83	9†	22	22	3.9	3.25	+ 0.95	0.95	T.	10	7	8	16	ne.	C. H. Morris.
Marietta.	Washington.	627	93	55.2	+ 2.2	87*	10	25	22	3.35	3.31	+ 0.44	0.96	0	13	9	7	15	n.	Prof. T. D. Biscoe.
Marion.	Marion.	980	35	53.0	- 0.4	89	10	25	22	3.9	3.47	+ 0.95	0.83	0.5	13	8	10	13	sw.	Dr. E. H. Raffensperger.
Milfordton.	Knox.	1,200	21	53.2	+ 1.2	86	6	20	22	4.2	2.73	+ 0.44	0.75	0.2	14	9	7	15	sw.	L. H. Burgess.
Milligan.	Perry.	875	20	54.8	+ 1.1	90	10	18	22	5.0	3.10	+ 0.74	0.77	T.	8	5	16	10	sw.	V. C. Eveland.
Millport.	Columbiana.	1,145	20	51.8	0	82	10	20	22	4.2	4.42	+ 2.37	0.94	T.	18	4	14	13	s.	G. F. Copeland.
Nellie.	Coshocton.	850	13	53.8	+ 0.9	83	10	21	22	4.0	3.60	+ 1.33	1.00	T.	10	15	12	4	sw.	Ethel L. Gammertsfelder.
O. S. University.	Franklin.	757	30	54.5	+ 1.9	85	10	28	22	3.6	2.48	+ 0.19	0.72	0	13	12	4	15	...	Prof. H. C. Lord.
Oregonia.	Warren.	690																	...	E. H. Stephens.
Pataskala.	Licking.	1,015	21	53.4	0	85	10	22	22	3.7	3.68	+ 1.15	1.08	1.0	15	8	12	11	n.w.	J. N. Ridenour.
Peebles.	Adams.	645	24	54.2		91	10	19	22	51	2.68		0.77	T.	10	14	8	9	sw.	Ora O. Smalley.
Philo.	Muskingum.	1,018	18	54.6	+ 0.1	83	24	22	33	2.72	+ 0.82	0.86	T.	10	11	6	14	n.w.	L. C. Burckholter.	
Piqua.	Miami.	847	3															...	Harty L. Roberts.	
Plattsburg.	Clarke.	1,130	20	53.7	- 0.4	85	10	25	22	3.24	2.81	+ 0.35	0.55	T.	12	10	8	11	n.	F. E. Stewart.
Portsmouth.	Scioto.	527	82	55.2	- 0.4	90	10	28	22	4.28	- 0.41	0.75	0.75	T.	8	13	0	18	sw.	Dr. H. A. Schirrmann.
Prospect.	Marion.	909	3															...	Neil J. Gast.	
Sidney.	Shelby.	985	30	54.9	+ 2.5	89	7†	27	22†	3.8	3.34	+ 0.88	0.65	0.2	12	10	7	14	sw.	Hamline B. Blake.
Somerset.	Perry.	1,080	14	55.6	+ 0.2	84	10	24	22	3.47	- 0.03	1.00	1.0	T.	13	12	9	10	s.	Miss M. W. C. Sheridan.
Springfield.	Clark.	980	19															...	W. A. Webster.	
Summerfield.	Noble.	1,187	7	54.2		85	10	23	22	4.4	3.86		0.91	0.1	15	7	10	14	sw.	H. R. McClinton.
Waverly.	Meigs.	583	2	56.9	0	91	10	22	27	4.7	3.91		1.14	T.	8	10	5	12	...	Irving R. Karr.
Waynesville.	Gallia.	696	20	56.2	- 0.6	88	10	24	22	4.5	2.80	+ 0.96	0.85	T.	8	10	8	13	...	D. D. Thomas.
Youngstown.	Licking.	1,031	45	54.8	+ 1.3	88	10	24	22	4.04	+ 0.85	0.45	0.1	0	9	7	9	15	w.	H. A. Albyn.
Zanesville.	Champaign.	900	24	53.4	+ 1.8	85	9	31	14	4.2	5.18	+ 2.70	1.23	0.7	16	8	7	16	sw.	Prof. J. H. Williams.
Forest Reserve.	Trumbull.	700	28	55.4	+ 0.1	88	10	21	22	4.1	1.76	- 0.39	0.80	T.	9	6	4	11	sw.	M. D. McCorkle.
Greenfield.	Warren.	900	30	55.4	+ 0.4	86	10	25	22	3.4	3.42	+ 1.28	1.10	0	11	15	5	11	sw.	Dr. Peru Hutt.
Greensburg.	Wayne.	1,030	34	52.2	+ 1.															

TABLE 1.—Climatological data for October, 1913. District No. 3—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.	Prevailing wind direction.	Observers.				
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeasured.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Indiana—Continued.																				
Logansport.....	Cass.....	620	33	54.4	+ 1.3	88	7	28	21†	40	4.00	+ 1.59	1.43	T.	10	19	0	12	e.	Chas. Massena.
Madison.....	Jefferson.....	460	21	57.6	+ 0.1	90	10	28	23	43	3.08	+ 0.56	0.80	T.	12	6	9	12	sw.	Miss F. Cooperider.
Marengo.....	Crawford.....	363	31	53.0	+ 1.4	89	6	32	31	36	4.10	+ 0.95	0.72	T.	11	13	8	10	sw.	J. M. Johnson.
Marion.....	Grant.....	814	27	55.0	+ 1.8	90	7	26	21†	40	2.92	+ 0.83	0.80	0.5	10	8	8	10	nw.	James F. Hood.
Mauzy.....	Rush.....	980	33	53.6	+ 1.5	87	7†	21	23	41	3.31	+ 0.44	0.80	0.5	10	15	3	13	sw.	Elwood Kirkwood.
Monticello.....	White.....	674	3	54.8	+ 1.5	88	7†	27	31	42	4.34	+ 1.65	1.82	T.	12	14	8	9	w.	J. E. Loughry.
Moores Hill.....	Dearborn.....	980	12	56.0	+ 0.6	87	10	27	22	35	2.61	+ 0.65	0.85	0.5	10	13	2	16	nw.	W. S. Bigney.
Mount Vernon.....	Posey.....	410	27	55.8	- 1.4	85	11	28	31	34	2.88	- 0.19	0.80	T.	14	13	2	16	sw.	Guy B. Green.
Nashville.....	Brown.....			54.8	-	88	10	24	22	40	2.40	-	0.69	T.	7	7	1	10	w.	W. C. Goble.
Paoli.....	Orange.....	611	16	54.4	- 2.7	90	7	24	21†	42	3.17	- 0.26	0.70	T.	13	11	7	13	sw.	James A. Gillum.
Princeton.....	Gibson.....	481	31	57.0	+ 1.1	91	7	26	31	37	3.68	+ 1.23	0.91	0.5	9	17	3	11	sw.	Albert Mills.
Richmond.....	Wayne.....	972	28	54.2	+ 1.2	88	10	24	22	39	3.16	+ 0.39	0.60	T.	10	11	10	10	sw.	Walter Vossler.
Rochester.....	Fulton.....	775	8	53.8	-	88	10	28	21	30	3.53	-	1.37	T.	5	19	5	7	w.	J. E. Troutman.
Rockville.....	Parke.....	722	27	54.8	+ 0.2	88	7	26	31	35	3.96	+ 1.54	1.40	0.9	13	9	11	11	se.	C. A. Lee.
Rome.....	Perry.....	370	10	57.6	- 1.1	94	7	27	31	42	4.34	+ 1.26	1.82	T.	11	15	5	11	sw.	Adam Anspach.
Salamonia.....	Jay.....	950	8	53.0 ^a	-	88 ^a	10	28	22	37 ^a	4.06	-	1.03	T.	1.1	15	7	11	nw.	S. A. Armstrong.
Salem.....	Washington.....	717	20	54.4	- 1.5	87	6†	21	31	42	3.96	+ 1.01	0.90	T.	12	11	10	10	s.	Emmet S. Allen.
Scottsburg.....	Scott.....	570	19	55.8	- 1.2	90	7	28	22	41	3.08	+ 0.53	0.73	T.	9	8	12	11	w.	Frank H. Park.
Seymour.....	Jackson.....	610	26	56.2	+ 0.6	92	7	25	22	44	2.99	+ 0.01	0.61	T.	13	9	11	11	sw.	J. Thomas Hays.
Shelbyville.....	Shelby.....	768	9	55.0	-	89	7†	25	22	41	3.60	-	0.86	0.2	11	7	15	9	sw.	Edgar G. Hodson.
Shoals.....	Martin.....	523	5	54.2	-	87	7	20	31	41	3.03	-	1.01	T.	9	17	0	14	sw.	Inez M. Rowe.
Terre Haute.....	Vigo.....	498	23	55.1	- 2.1	85	10	28	31	29	4.01	+ 1.75	2.44	0.8	10	7	11	13	nw.	U. S. Weather Bureau.
Veedersburg.....	Fountain.....	612	14	54.6	- 2.0	87	7	25	31	36	3.72	+ 1.23	1.18	T.	15	14	9	8	sw.	L. A. Culver, Jr.
Vevay.....	Switzerland.....	525	32	55.8	- 1.2	88	10	30	22	35	3.66	+ 1.30	1.25	T.	10	9	8	14	sw.	Miss Frederica Boerner.
Vincennes.....	Knox.....	431	21	57.4	+ 0.1	93	7	29	31	37	3.55	+ 0.49	1.35	T.	9	15	0	16	se.	Garrett V. List.
Washington.....	Daviess.....	484	17	56.6	- 0.5	90	7	30	31	34	3.57	-	1.22	T.	8	16	2	13	nw.	Charles C. Feagans.
Whitestown.....	Boone.....	529	5	52.8	-	85	10	27	21	35	3.25	-	0.99	0.5	13	9	20	2	nw.	Clyde O. Laughner.
Winona Lake.....	Kosciusko.....	865	6	53.4	-	87	7†	26	22†	35	3.41	-	0.88	0.2	10	8	13	10	sw.	Rev. Albert A. Young.
Worthington.....	Greene.....	526	31	55.4	- 0.1	85	10	29	31	34	3.30	+ 0.62	0.88	0.2	10	8	13	10	sw.	D. W. Solliday.
Illinois.																				
Albion.....	Edwards.....	531	22	56.4	- 0.5	88	7	26	31	34	3.74	+ 1.39	1.02	T.	8	18	3	10	s.	B. F. Michels.
Casey.....	Clark.....	645	10	54.4	- 2.0	86 ^a	10	24	31	36 ^a	5.13	+ 1.57	1.67	T.	8	7	14	10	se.	William Chenoweth.
Charleston.....	Coles.....	720	28	53.4 ^a	-	86 ^a	10	24	31	38	4.80	+ 2.25	1.52	T.	11	16	5	14	nw.	State Normal University.
Danville.....	Vermilion.....	604	12	54.2	- 0.9	87	7	26	31	38	3.98	+ 0.49	1.03	T.	12	13	4	14	nw.	J. J. Lemon.
Equality.....	Gallatin.....	415	15	59.2	- 0.8	91	7	27	31	37	3.98	+ 1.73	1.26	T.	10	13	9	9	nw.	Dr. L. W. Gordon.
Fairfield.....	Wayne.....	450	20	56.1	- 2.0	87	10	25	31	38 ^a	4.08	+ 2.10	1.28	T.	10	13	6	12	nw.	George A. Tromly.
Flora.....	Clay.....	495	27	55.8	+ 0.1	87	10	25	31	37	4.60	+ 2.10	1.28	T.	10	10	8	13	nw.	W. L. Hanna.
Golconda.....	Pope.....	500	35	57.6	- 2.0	89	7	30	30	42	2.67	- 0.29	0.75	T.	6	15	7	9	sw.	Dr. D. Lawrence.
Hooperston.....	Vermilion.....	715	11	53.7	+ 0.7	85	10	25	31	38	3.71	+ 1.74	0.82	T.	12	15	6	10	nw.	Thos. W. Hoskinson.
McLeansboro.....	Hamilton.....	462	30	56.7	- 0.6	88	10	26	31	38	4.52	+ 2.18	1.35	T.	9	14	4	13	nw.	Henry H. Biggerstaff.
Metropolis.....	Massac.....	346	2	54.3	-	87	10	23	31	40	4.10	-	1.25	T.	10	14	4	13	nw.	J. C. Spittler.
Monroe.....	Ellington.....	569	3	54.3	-	87	10	23	31	40	4.37	-	1.15	T.	10	14	10	7	sw.	W. H. Phillips.
Mount Carmel.....	Wabash.....	424	12	56.5	- 1.3	88 ^a	7	27	31	34 ^a	3.45	+ 0.85	1.30	T.	10	13	5	14	ne.	Thomas H. McCabe.
New Burnside.....	Johnson.....	613	18	55.9 ^b	- 3.0	84	6†	23	31	38	6.43	+ 3.15	1.60	T.	13	15	2	14	sw.	J. M. Hicks.
Newton.....	Jasper.....	484	2	54.3	-	87	10	27	31	34	4.45	-	1.34	T.	10	14	9	8	nw.	John T. Ratcliffe.
Olney.....	Richland.....	486	26	54.0	- 2.4	86	7†	25	31	39	3.72	+ 1.36	1.76	T.	8	13	11	7	nw.	Duane Shaw.
Palestine.....	Crawford.....	500	31	56.3	+ 0.7	88	6	28	31	36	3.08	+ 0.50	1.03	T.	9	12	7	12	s.	H. P. Twyman.
Paris.....	Edgar.....	600	20	54.6	0.0	89	7	21	31	37	4.33	+ 2.11	1.90	T.	10	13	4	14	nw.	H. A. Burr.
Philo.....	Champaign.....	700	29	52.6	- 0.5	84	10	25	31	36	3.34	+ 1.11	0.97	T.	7	13	10	8	nw.	W. H. Thornberry.
Rileyville.....	Saline.....	400	16	52.6	- 0.5	84	10	25	31	36	4.02	+ 2.02	1.04	T.	8	10	3	18	nw.	Mrs. Mary O. Speivey.
Shawneetown.....	Gallatin.....	307	3	52.0	-	87	10	27	31	34	2.87	-	0.86	T.	13	10	0	11	n.	Mrs. Mary O. Neal.
Sidell.....	Vermilion.....	680	0	52.0	-	87	10	27	31	34	4.53	-	0.90	T.	12	20	0	11	n.	University of Illinois
Tuscola.....	Douglas.....	644	20	52.8	- 0.8	82	10	26	21†	30	4.08	+ 1.79	0.94	T.	15	10	7	14	nw.	Kentucky.
Urbana.....	Champaign.....	751	11	52.8	- 0.8	82	10	26	21†	30	4.03	+ 2.08	0.85	T.	12	8	16	7	sw.	W. W. Hicks.
Kentucky.																				
Alpha.....	Clinton.....	19	58.2	- 0.9	85	10	32	31	38	3.30	+ 0.87	1.15	T.	5	16	1	14	w.	W. W. Hicks.	
Anchorage.....	Jefferson.....	700	12	55.2	- 0.7	90	9†	25	31	40	3.74	+ 1.13	0.97	T.	12	15	5	11	sw.	C. E. Barrett.
Bardstown.....	Nelson.....	637	16	57.5	- 1.7	93	7	27	31	40	3.85	+ 2.04	1.20	T.	0	9	17	2	nw.	T. S. Talbott.
Beattyville.....	Lee.....	650	9	55.6	- 0.9	91	8†	25	22	33	2.86	- 0.04	0.78	T.	8	9	12	10	w.	G. W. Cann.
Beaver Dam.....	Ohio.....	441	10	56.8	- 0.7	93	7	25	31	45	3.22	+ 1.07	1.15	T.	0	7	17	2	nw.	W. T. Austin.
Berea.....	Madison.....	1,070	13	58.0	- 0.1	90	7†	29	22	46	3.40	+ 1.30	1.20	T.	10	13	4	10	nw.	C. F. Rumold.
Blandville.....	Ballard.....	445	32	57.0	- 1.1	82	10	27	31	30	5.62	+ 2.89	1.08	T.	10	13	4	14	sw.	E. W. Orr.
Bowling Green.....	Warren.....	500	24	57.0	- 1.9	92	8	26	31	43	4.05	+ 2.16	2.00	T.	10	8	14	4	s.	

TABLE 1.—Climatological data for October, 1913. District No. 3—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
Kentucky—Continued.																			
Pikeville.	Pike.	5	5	58.4	+ 0.5	91	10	31	21†	39	3.55	+ 1.30	0.99	0	9	14	2	15	I. M. Williams.
Richmond.	Madison.	926	21	55.8	- 1.6	90	7	27	31	45	4.04	+ 1.94	1.45	T.	8	12	5	14	J. W. Crooke.
St. John.	Hardin.	777	17	55.8	- 1.2	91	6†	25	22	41	3.41	+ 1.18	0.80	T.	11	10	8	13	Bethlehem Academy.
Scott.	Kenton.	15	56.5	56.5	- 2.3	94	10	23	23	48	2.67	+ 0.68	0.77	T.	9	15	4	12	S.
Shelby City.	Boyle.	1,087	19	55.2	- 0.6	90	7†	30	21	38	3.53	+ 1.40	T.	12	14	3	14	H. F. Ewing.	
Shelbyville.	Shelby.	759	24	57.0	+ 0.6	87	10	28	31	45	4.19	+ 1.86	1.72	T.	12	14	3	14	C. H. Burnett.
Taylorsville.	Spencer.	489	11	55.4	- 0.4	87	10	29	23	43	4.24	+ 1.80	2.32	T.	9	18	1	12	E. D. Bourne.
Weeksville.	Floyd.	1,216	0	57.4	- 3.1	89	10	29	22	48	3.52	+ 1.30	1.65	T.	11	14	4	13	O. A. Lund.
Williamsburg.	Whitley.	939	17	56.8	- 3.1	89	10	29	22	48	3.52	+ 1.30	0.90	T.	5	5	0	6	Noble C. Jones.
Williamstown.	Grant.	943	11								2.86								Miss Rose Carter.
Tennessee.																			
Ashwood.	Maury.	725	40	58.6	- 1.1	90	7†	28	31	39	2.90	+ 0.28	1.30	0.2	7	12	8	11	Mrs. Joseph W. Fleming.
Benton.	Polk.	880	29	58.2	- 1.1	89	10	24	21	43	1.65	- 0.93	0.45	T.	6	17	6	8	George L. Williams.
Birds Bridge.	Greene.	7									2.07		0.82	T.	9	16	3	12	David B. George.
Bluff City.	Sullivan.	18									1.40	- 0.68	0.87	T.	5	12	4	15	Walter C. Masenill.
Byrdstown.	Pickett.	1,026	21	58.5	+ 0.1	88	10	30	30	38	2.33	- 0.20	0.83	T.	8	11	12	12	e.
Carthage.	Smith.	500	30	59.0	- 0.3	83	10	28	31	42	3.17	+ 0.83	0.75	T.	10	17	1	13	John Lacy.
Cedar Hill.	Robertson.	625	15	58.7	- 1.9	92	10	25	31	38	4.07	+ 2.05	1.00	3.0	8	14	7	7	Earl C. Pickering.
Colina.	Clay.	494	10								3.53	+ 0.59	1.75	T.	9	9	10	22	J. Frank Ruffin.
Charleston.	Bradley.	709	26								1.54	- 0.84	0.42	T.	9	20	1	10	Charles M. Anderson.
Chattanooga.	Hamilton.	808	34	58.8	- 2.0	85	10	31	21	31	2.59	- 0.25	1.35	T.	8	15	8	8	John T. Weeks.
Clarksville.	Montgomery.	500	53	59.6	+ 1.8	93	9	26	31	42	3.74	+ 1.41	0.84	3.0	11	14	5	12	U. S. Weather Bureau.
Clinton.	Anderson.	800	29								1.68	- 0.56	0.60	T.	6	16	1	14	Dr. James A. Lyon.
Crossville.	Cumberland.	1,895	1	54.8	- 85	97	25	21	41	2.71	2.72	- 0.55	0.70	T.	9	21	5	5	H. C. Slover.
Dandridge.	Jefferson.	8									0.94	- 0.72	0.72	T.	9	19	4	8	J. E. Converse.
Decatur.	Meigs.	850	18	57.8	- 1.7	90	10	27	21†	46	2.37	- 0.55	0.70	T.	11	21	4	6	James E. Swann.
Dickson.	Dickson.	800	20	57.6	- 2.4	90	8†	24	21†	46	2.47	+ 0.47	0.66	T.	6				J. Worth Lillard.
Dover.	Stewart.	500	17	58.6	- 1.4	90	7	27	31	39	5.92	+ 3.27	1.51	2.0	7	16	4	11	Nathan R. Sugg.
Dunlap.	Sequatchie.	726	4								2.87	- 0.87	1.09	T.	9	16	6	8	Asa M. Tippit.
Elizabethton.	Carter.	1,575	22								1.54	- 0.55	1.40	T.	3	17	3	11	S. Bradford Boyd.
Erasmus.	Cumberland.	1,850	16	53.4	- 2.0	87	5	24	31	50	3.12	- 0.32	0.55	0.4	8	17	6	8	Charles Boyd.
Florence.	Rutherford.	560	31	58.9	- 0.4	89	10	28	31	37	2.40	+ 0.06	0.80	T.	7	19	4	8	Mrs. Sara E. Ashley.
Franklin.	Williamson.	648	25	58.7	- 2.1	85	10	28	31	38	3.47	+ 1.18	1.60	T.	6	13	5	13	Erastus P. Bell.
Halls Hill.	Rutherford.	10									2.98	+ 0.30	0.90	T.	9	17	0	14	Young M. Rizer.
Hohenwald.	Lewis.	983	30	58.0	+ 0.3	89	7	25	21	40	4.40	+ 2.13	1.38	T.	10	20	3	8	Edward F. Wright.
Iron City.	Lawrence.	600	18	57.1	- 3.0	87	9†	24	21	39	2.85	+ 0.43	1.66	T.	8	9	6	8	Mrs. Mary Lutzelman.
Jefferson City.	Jefferson.	3									2.87	- 0.87	1.09	T.	9				Calvin C. Maddox.
Johnson City.	Washington.	1,620	20	56.8	+ 0.4	94	10	30	21	43	1.36	- 1.08	0.90	T.	5	19	6	6	Ward Crosby.
Johnsonville.	Humphreys.	364	29	58.6	- 1.4	91	9	26	31	41	3.61	+ 1.29	0.95	T.	10	13	5	13	Miss Sally V. Mathews.
Kingston.	Roane.	29									2.04	- 0.35	0.44	T.	7	18	0	13	Henry Crumbill.
Knoxville.	Knox.	977	42	57.3	- 0.8	86	10	32	21	33	2.45	- 0.16	0.83	T.	8	16	9	9	U. S. Weather Bureau.
Lebanon.	Wilson.	522	4	59.2	- 1.6	91	9	27	31	40	2.56	- 0.40	0.90	T.	8	14	3	14	H. Logan Fields.
Lewisburg.	Marshall.	727	19	58.3	- 1.6	91	8†	24	31	46	2.95	+ 0.06	1.27	T.	21	1	7	16	Dr. Robert D. Crutcher.
Liberty.	Dekalb.	672	16								2.62	- 0.62	0.62	T.	8	16	0	15	Bratten Evans.
Loudon.	Loudon.	816	22	57.0	- 2.3	84	9	28	31	33	2.77	+ 0.25	0.70	T.	9	20	2	16	Robert W. Clark.
Lynnville.	Giles.	770	26	57.0	- 2.3	84	9	28	31	33	2.77	+ 0.25	0.70	T.	9	22	0	9	Col. James H. Burrow.
McGhee.	Monroe.	8									1.96	- 0.49	0.49	T.	0	9	22	0	Miss Alice L. Headrick.
McMinnville.	Warren.	1,038	32	58.8	+ 0.5	92	10	26	31	48	3.22	+ 0.54	1.10	0.5	8	16	6	8	Horace H. Stiles.
Maryville.	Blount.	1,050	20																
Mountain City.	Johnson.	2,486	16	54.0	+ 1.2	81	10	24	21†	45	1.47	- 1.45	0.61	T.	5	14	10	7	Edward E. Barry.
Nashville.	Davidson.	654	42	58.8	- 1.5	88	7	28	31	32	3.93	+ 0.45	1.22	T.	9	15	4	12	U. S. Weather Bureau.
Newport.	Cooke.	1,280	23	57.4	+ 0.8	81	9	33	21†	35†	1.88	- 0.14	0.70	T.	12	13	3	16	Dr. Charles T. Burnett.
New River.	Scott.	1,215	5								2.81	- 0.10	0.55	T.	9	13	3	15	Burl W. Buttram.
Palmetto.	Bedford.	770	28	58.2	- 3.3	89	6	26	31	42	3.00	+ 0.39	1.10	T.	8	19	2	10	Mrs. Ross Woods.
Perryville.	Decatur.	387	17	58.4	- 91	10	25	21†	40	4.40	+ 1.70	1.81	T.	6	18	3	10	Oliver C. Kirksey.	
Pinewood.	Hickman.	7																Miss Carrie Cash.	
Rogersville.	Hawkins.	1,150	29	58.2	+ 1.6	91	10	30	23	43	2.81	+ 0.39	0.62	T.	10	17	6	8	w.
Rugby.	Morgan.	1,410	24	54.0	- 0.6	89	10	25	31	49	3.12	+ 0.83	0.58	T.	8	16	3	12	Fred Beal.
Savannah.	Hardin.	442	30	59.4	- 0.6	89	6	26	21†	40	3.46	+ 1.21	1.04	T.	7	15	9	9	Samuel G. Wilson.
Sevierville.	Sevier.	7		58.4	- 84	9†	29	22	37	3.70	1.48	T.	10	15	3	13	W. H. Carrington.		
Sewanee.	Franklin.	2,000	19										2.0	T.	6	14	9	8	Herbert O. Eckel.
Sparta.	White.	920	7	56.3	- 87	10	27	31	40	2.65	- 1.45	1.45	0.50	T.	10	17	6	8	University of the South.
Springville.	Henry.	377	11	57.6	- 1.2	88	6†	26	31	41	6.45	+ 3.88	1.75	1.0	9	16	7	8	Ernest H. Hull.
Tazewell.	Clairborne.	1,350	16	54.4	- 87	9	27	31	47	2.56	- 0.05	0.60	T.	9	19	2	10	Hudnall A. Boden.	
Tullahoma.	Coffee.	1,075	26	58.3	- 1.6	85	6	27	31	39	2.63	- 0.12	0.89	T.	9	16	5	10	J. Caloway Carr.
Walling.	White.	909	9								2.75	- 0.12	1.20	T.	6	17	3	11	Reuben T. Moore.
Waynesboro.	Wayne.	753	28	57.2	- 1.2	90	6	24	21†	40	3.73	+ 1.67	1.23	3.0	11	12	11	8	n.
Wildersville.	Henderson.	500	17	58.9	- 0.9	92	1	28	31	36	5.39	+ 2.51	1.30	T.	6	14	5	12	John K. Roberts.
Worsham.	Summer.	550	11								4.36	+ 1.94	1.37	T.	9	16	4	11	Harry C. Boyd.
Yukon.	Lincoln.	850	17								2.57	- 0.20	1.18	T.	6	18	5	8	William R. Wilson.
Georgia.																			

TABLE 1.—*Climatological data for October, 1913. District No. 3—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Number of cloudy days.	Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.		
<i>North Carolina.</i>																			
Altapass.	Mitchell.	2,629	...	54.8 ^b	...	78	6†	29	31	41	3.20	...	2.00	T.	2	15	13	3 ne.	Altapass Inn.
Andrews.	Cherokee.	1,800	3	56.0	— 0.8	85	6†	25	30	46	3.08	— 0.42	1.18	T.	10	22	4	5 n.	J. D. Link.
Asheville.	Buncombe.	2,255	34	54.5	— 0.8	81	5	28	22	38	2.62	— 0.42	0.98	T.	8	19	6	6 nw.	U. S. Weather Bureau.
Banners Elk.	Avery.	3,750	5	48.8	—	77	10	23	21†	43	3.70	—	1.30	2.0	9	17	1	13 w.	T. L. Lowe.
Blantyre.	Transylvania.	1,900	1	—	—	—	—	—	—	—	4.29	—	2.70	0	—	—	—	—	R. W. Collett.
Blowing Rock.	Watauga.	4,090	4	—	—	—	—	—	—	—	4.42	—	1.80	1.5	8	—	—	—	E. G. Underdown.
Brevard.	Transylvania.	2,230	12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Prof. C. H. Trowbridge.
Bryson City.	Swain.	2,000	25	—	—	—	—	—	—	—	2.78	+ 0.12	0.95	0	7	—	—	—	D. K. Collins.
Cane River.	Yancey.	2,700	—	—	—	—	—	—	—	—	2.29	—	1.04	0	9	—	—	—	Hiram A. Proffitt.
Cullowhee.	Jackson.	2,100	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Frank H. Brown.	
Ellijay.	Macon.	2,500	—	—	—	—	—	—	—	—	2.87	—	0.95	0	8	—	—	—	Chas. A. Mincey.
Hendersonville.	Henderson.	2,167	16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	T. G. Harbison.
Highlands.	Macon.	3,850	23	51.4	0	74	4†	20	21	38	5.41	+ 0.28	2.82	1.0	8	16	10	5 se.	P. A. Garner.
Hot Springs.	Madison.	1,326	15	57.3	— 0.8	85	6	32	22	39	2.33	—	0.51	T.	9	20	5	6 w.	Prof. E. J. Johnson.
Jefferson.	Ashe.	2,900	9	53.8	— 3.9	84	6	25	22†	47	3.11	—	1.52	0.5	8	11	1	19 w.	M. L. Church.
Marshall.	Madison.	1,646	11	54.9	— 3.9	83	10	30	22	40	2.56	+ 0.19	1.00	T.	8	19	2	10 w.	Miss Victoria Mingus.
Murphy.	Cherokee.	1,614	37	—	—	—	—	—	—	—	3.16	+ 0.04	0.97	T.	—	—	—	—	Barry C. Hawkins.
Roch House.	Macon.	3,100	21	54.0	— 1.9	75	9	23	21	30	5.16	+ 0.41	2.38	0.1	8	20	9	2 nw.	S. M. Transou.
Transon.	Ashe.	2,600	1	—	—	—	—	—	—	—	3.26	—	1.80	0	4	—	—	—	Mrs. Chas. E. Quinlan.
Waynesville.	Haywood.	2,792	19	52.8	— 1.8	85	9	25	22	47	2.50	+ 0.05	0.68	T.	8	21	4	6 nw.	—
<i>Virginia.</i>																			—
Blacksburg.	Montgomery.	2,170	22	53.0	+ 0.6	80	5	20	22	44	3.05	+ 0.36	0.96	T.	12	7	10	14 w.	Agricultural Exper. Station.
Burkes Garden.	Tazewell.	3,250	18	49.4	— 0.1	75	5†	13	22	46	2.86	— 0.23	1.65	2.00	5	12	3	16 w.	C. H. Greever.
Elk Knob.	Lee.	3,243	10	56.8	— 0.4	82	10	27	21†	28	2.92	+ 0.37	1.15	T.	10	16	5	10 nw.	Henry Nicoll.
Emory.	Washington.	2,094	1	53.2	— 0.4	84	10	28	14	44	1.63	—	0.88	0	6	—	—	J. E. Weaver.	
Ivanhoe **.	Wythe.	2,028	9	51.3	—	74	11	26	22	36	2.78	—	1.00	0	13	15	10	6 w.	Miss Alice G. Jewett.
Max Meadows.	do.	2,028	17	52.3	— 0.3	81	10	20	22	43	2.56	+ 0.05	1.58	T.	8	16	10	5 w.	James M. Graham.
Mendota.	Washington.	1,350	4	—	—	—	—	—	—	—	—	—	0.85	T.	8	—	—	—	Frank M. Barker.
Mountain Lake.	Giles.	4,348	3	51.7	—	80	6	21	21	35	6.23	—	2.00	3.00	8	15	6	10	H. E. Dorland.
Redford.	Montgomery.	1,773	4	—	—	—	—	—	—	—	3.34	—	0.68	—	12	6	—	—	Arthur Roberts.
Speers Ferry.	Scott.	1,221	17	—	—	—	—	—	—	—	2.94	+ .07	0.80	T.	8	—	—	—	Miss L. E. Venable.
Wytheville.	Wythe.	2,293	20	53.2	— 0.4	83	5	22	22	45	2.31	— .83	0.80	T.	13	15	6	10 w.	U. S. Weather Bureau.

*, †, ‡, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for October, 1913. District No. 3, Ohio Valley.*

Stations.	Watershed.	Day of month.																														Total.		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
<i>New York.</i>																																		
Allegany	Allegany	.02	.86																															4.74
Bolivar	do	.20	.43	.20																													5.24	
Olean	do	.60	.02	.80																													5.72	
<i>Pennsylvania.</i>																																		
Aleppo	Ohio	.20	.57	.10																													4.41	
Baldwin	Allegheny	.93	.23	.88																													6.45	
Beaver Dam	Ohio	.13	.44	.48	.01																											3.53		
Beaver Falls	do	.06	.18	.53																													3.50	
Brookville	Allegheny	1.30	.18	.16																													5.20	
California	Monongahela	.09																															3.15	
Cheat Haven	do	.21	.33	.42																													4.79	
Clarion	Allegheny	.75	.04	.49																													5.08	
Claysville	Ohio	.66	.67	.05																													4.36	
Confluence	You'ogh'ny	.30	.36	.84																													6.21	
Corporopolis	Ohio	.14		.84	.01																												3.62	
Davis Island Dam	do	.28	.01	.79	.70																												3.72	
Derry Station	Allegheny	.59	.45	.64																													5.23	
Edinboro	do	.49	.16	.20																													4.79	
Ellwood City	Ohio	.12	.14	.12	.02																												5.27	
Franklin	Allegheny	.55	.80																														5.42	
Freeport	do	.42	T.	1.00																													5.42	
Greensburg	Monongahela	.30	.06	.02																													4.64	
Greenville	You'ogh'ny	1.00	.39	.45																													5.37	
Grove City	Ohio	.32	.68	.07																													4.69	
Harris Island Dam	do	.33	.08	.46																													3.93	
Indiana	Allegheny	1.05	T.	.64	T.																												4.24	
Johnstown	do	.68	.50																														5.87	
Lock No. 4	Monongahela	.91	.98	.30	T.																												8.53	
Lycippus	Allegheny	1.30	.40	.51																													4.04	
Mosgrove	do	.41	T.	1.15	T.																												5.96	
Parkers Landing	do	.84	.50																														4.76	
Pittsburgh	Ohio	1.00	.73	T.																													4.26	
Punxsutawney	Allegheny	1.72	.24																														4.81	
Ridgway	do	.60	.38	.08																													4.05	
Segerstown	do	.15	.19	.26																													2.27	
Saltsburg	do	.91	.11	.97	T.	T.																											1.01	
Sharon	Ohio	19.15	.58	.45	T.																												5.57	
Somerset	You'ogh'ny	.33	.36	.30																													5.44	
Springdale	Allegheny	1.07		.79																													4.21	
Uniontown	Monongahela	.36	.42	.85																													5.03	
Warren	Allegheny	.80	.20	.42																													5.58	
West Newton	You'ogh'ny	.32		.52	T.																												4.46	
<i>Maryland.</i>																																		
Deer Park	You'ogh'ny	.45	.34	.46																													5.51	
Grantsville	do	.68	.28	.57																													5.62	
Oakland	do	.13	.37	.26																													5.68	
<i>West Virginia.</i>																																		
Bancroft	G. Kanawha	.05																															3.40	
Beckley	do																																1.78	
Bens Run	Ohio	.30	.45																														4.75	
Bluefield	G. Kanawha	.30	.15																														2.55	
Brandonville	Monongahela	.71	.01	.30																													8.11	
Buckhannon	do	.10	.60	.25																													5.65	
Cairo	L. Kanawha	.38	.14																														3.69	
Central Station	M'dle Is C'k	.07	.35	.03																													4.58	
Charleston	G. Kanawha	.12	.20																														5.76	
Cheat Bridge	Monongahela	.03		.11	.12																												5.63	
Cortland	L. Kanawha	.02	.33																														5.63	
Creston	do	.05	.08	.65																													3.36	
Cuba	L. Kanawha	.02		.38																														

TABLE 2.—*Daily precipitation for October, 1913. District No. 3—Continued.*

TABLE 2.—*Daily precipitation for October, 1913. District No. 3—Continued.*

TABLE 2.—*Daily precipitation for October, 1913. District No. 3—Continued.*

TABLE 2.—*Daily precipitation for October, 1913. District No. 3—Continued.*

Stations.	Watershed.	Day of month.																													Total.					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
<i>North Carolina.</i>																																				
Altapass.....	Tennessee.....									T.	.29	.13	T.																					3.20		
Andrews.....	do.....										.10	.05																						3.08		
Asheville.....	do.....										.30	.30	.10																					2.52		
Banners Elk.....	do.....										.15																								3.70	
Blantyre.....	do.....										.05																								4.29	
Blowing Rock.....	G. Kanawha Tennessee.....										.41	.04																						4.42		
Brevard.....	Tennessee.....																																			2.78
Bryson City 	do.....																																			2.29
Cane River.....	do.....										.04	.21																							2.87	
Cullowhee.....	do.....																																			5.41
Ellijay.....	do.....																																			2.33
Hendersonville.....	do.....																																			3.11
Highlands.....	do.....																																			2.56
Hot Springs.....	do.....																																			3.16
Jefferson.....	G. Kanawha Tennessee.....										.08		T.	.17	.09																			3.16		
Marshall 	do.....																																			3.26
Murphy 	do.....																																			2.50
Rock House.....	Savannah.....																																			5.16
Transon.....	G. Kanawha Tennessee.....																																			3.01
Waynesville 	Tennessee.....																																			2.31
<i>Virginia.</i>																																				
Blacksburg.....	Kanawha.....	.16	.10	.10							.08	.41	.08	.17																				3.05		
Burkes Garden.....	Tennessee.....																																			2.86
Elk Knob.....	do.....																																			2.92
Emory.....	do.....																																			1.53
Ivanhoe 	Kanawha.....																																			2.78
Max Meadows.....	do.....																																			2.56
Mendota 	Tennessee.....																																			3.01
Mountain Lake.....	Kanawha.....																																			6.13
Radford 	do.....																																			3.34
Speers Ferry 	Tennessee.....																																			2.94
Wytheville.....	Kanawha.....																																			2.31

* Precipitation included in that of the next measurement.

† Separate dates of falls not recorded.

||| Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—Maximum and minimum temperatures at selected stations for October, 1913. District No. 3, Ohio Valley.

Date.	Pennsylvania.				West Virginia.								Ohio.								Canton.		Cincinnati.		Columbus.		Dayton.	
	Greenville.		Pittsburgh.		Charleston.		Elkhorn.		Elkins.		Glenville.		Huntington.		Morgan-		Parkers-		Wheel-		Canton.		Cincinnati.		Columbus.		Dayton.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	66	53	68	59	74	66	74	57	67	55	68	53	74	61	74	59	72	58	71	50	67	57	68	55	70	56	75	54
2....	61	50	62	49	74	58	67	49	64	48	65	51	70	56	63	49	67	51	68	54	66	50	54	53	72	52	72	52
3....	59	51	60	55	64	55	57	54	59	48	66	49	64	56	61	50	64	55	63	51	56	50	53	51	68	55	72	41
4....	73	41	69	51	74	50	71	49	67	43	50	52	69	46	70	49	70	48	72	46	70	43	75	44	62	42	72	41
5....	83	40	80	49	77	48	80	47	82	39	82	53	78	45	85	45	81	45	82	47	83	52	80	51	65	45	82	39
6....	84	48	70	52	75	54	78	52	74	42	80	52	77	45	80	50	80	52	74	48	79	59	85	61	72	57	82	49
7....	81	41	76	52	78	53	76	52	74	45	80	54	79	50	74	49	83	48	84	51	81	59	86	56	73	45	84	45
8....	80	51	77	61	80	57	74	60	77	55	81	51	80	50	79	56	83	57	83	51	80	59	84	58	81	50	85	49
9....	83	54	77	64	78	60	75	58	69	55	79	53	80	58	75	56	83	59	84	55	81	62	85	63	80	58	85	52
10....	84	51	84	61	83	62	80	58	83	54	80	54	84	55	86	56	85	59	85	56	85	61	86	64	88	58	85	53
11....	74	42	78	49	83	58	79	60	79	49	72	51	75	61	77	49	79	56	70	46	74	46	75	52	79	54	77	44
12....	66	25	61	44	64	44	65	39	57	43	71	44	65	43	67	44	64	38	60	39	65	41	68	40	65	36	68	34
13....	65	35	56	43	64	42	63	44	65	55	68	42	64	41	65	44	61	43	64	38	61	40	64	35	66	34	66	34
14....	69	28	66	37	69	44	70	33	65	29	69	43	70	35	68	34	70	34	70	36	71	41	74	46	76	37	74	29
15....	76	36	74	51	76	39	73	41	70	36	70	44	74	37	74	42	75	41	81	36	77	46	76	49	79	44	78	34
16....	73	38	72	48	77	55	74	44	73	50	68	43	77	37	75	57	76	56	78	40	74	56	77	52	72	56	82	38
17....	65	50	70	54	78	55	75	49	73	49	67	42	74	52	73	50	74	56	70	45	66	59	65	55	75	58	75	52
18....	61	45	66	46	75	58	72	56	62	48	70	41	62	55	70	60	63	50	64	52	63	42	55	42	63	45	76	51
19....	46	45	48	43	60	48	64	48	51	44	71	43	49	42	64	50	50	45	49	47	45	40	47	38	46	35	52	44
20....	51	38	53	39	59	42	50	35	48	36	42	42	48	42	64	45	49	40	52	44	43	36	44	33	42	35	47	39
21....	42	32	42	35	42	33	49	31	37	26	57	21	44	35	45	39	42	30	45	35	39	30	41	28	42	30	39	32
22....	46	25	57	32	77	32	61	27	56	20	58	23	64	28	62	23	63	28	58	27	60	30	58	30	47	25	65	21
23....	59	38	70	48	74	45	60	45	66	41	60	31	69	35	73	33	69	43	74	27	63	48	55	42	68	43	66	43
24....	68	42	61	52	68	55	65	50	64	52	62	40	65	42	63	51	62	49	59	42	57	49	58	47	63	48	63	52
25....	55	46	57	49	67	54	63	49	64	47	63	42	56	52	63	52	57	49	56	42	58	40	55	44	63	52	63	52
26....	57	42	52	48	66	45	60	45	48	42	60	43	58	41	53	47	56	44	53	49	58	40	59	35	63	37	61	38
27....	65	33	66	44	73	41	72	37	72	33	59	44	70	38	74	36	73	37	70	40	67	42	65	41	73	38	73	33
28....	57	43	62	45	70	47	62	46	59	42	60	41	49	38	65	44	57	45	48	39	46	41	45	40	55	40	66	43
29....	50	41	48	40	57	46	56	32	60	39	58	34	50	44	50	41	48	41	50	43	46	38	46	32	48	39	47	42
30....	45	35	42	36	53	38	55	33	40	31	57	35	41	36	52	34	44	31	36	39	40	40	32	43	32	46	33	
31....	43	31	40	32	46	35	48	32	40	28	59	34	46	35	44	33	44	33	46	33	41	29	41	31	43	29	46	28
Mns..	64.1	40.6	63.4	47.4	69.5	49.0	66.7	45.5	63.1	42.1	67.9	43.4	65.3	44.9	67.6	47.1	65.8	45.8	65.5	43.6	63.0	45.8	64.2	45.4	62.5	43.5	68.6	42.3

Date.	Ohio.				Indiana.								Philippines.								Kentucky.							
	Marion.		Waverly.		Butler-		Evans-		Indian-		Kokomo.		Rock-		Worthing-		Philo, Ill.		Beatty-		Bowling		Earling-		Greens-		Lexing-	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	69	53	68	58	72	53	74	57	65	54	68	52	71	52	68	54	73	52	77	55	73	52	78	52	77	54	70	55
2....	63	49	71	57	73	52	76	58	68	54	68	51	71	54	72	56	70	53	74	48	77	52	79	54	77	53	72	53
3....	58	49	60	54	75	43	73	50	71	48	69	40	73	41	71	44	75	39	74	44	77	44	80	40	75	41	68	50
4....	76	38	75	47	79	40	79	51	77	49	78	41	79	44	77	43	79	44	80	42	82	48	80	42	76	49	75	49
5....	82	42	84	50	83	54	77	56	75	55	76	50	75	54	73	51	68	56	78	59	76	50	77	57	87	57	80	52
6....	81	51	86	57	85	66	82	65	80	57	86	63	82	64	83	59	86	62	88	68	84	71	85	61	85	61	86	61
7....	82	49	86	57	88	66	85	62	87	56	88	58	83	57	88	55	82	58	88	64	84	71	85	67	88	65	88	67
8....	82	55	84	61	87	56	79	65	83	65	81	57	78	61	82	60	75	59	81	66	8							

TABLE 3.—*Maximum and minimum temperatures at selected stations for October, 1913. District No. 3—Continued.*

Date.	Kentucky.						Tennessee.										Decatur, Ala. §§		Asheville, N. C.		Virginia.							
	Louisville.		Mays- ville. §§		Williams- burg. §§		Chatta- nooga.		Johnson City. §§		Knoxville.		Nashville.		Palmetto.		Sparta.		Waynes- boro.				Blacks- burg.		Wythe- ville.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1....	70	57	77	57	78	55	79	63	78	58	78	60	76	60	82	59	76	58	80	55	80	64	72	57	75	50	71	56
2....	72	57	74	49	81	49	78	59	71	55	75	55	76	59	80	59	75	54	78	54	80	57	70	57	70	40	66	50
3....	73	51	70	52	74	54	75	55	70	50	72	53	76	52	78	44	74	42	76	41	75	48	64	50	50	43	58	51
4....	78	49	80	43	80	44	78	50	81	42	76	48	80	48	84	42	67	34	81	41	77	46	76	43	75	40	73	46
5....	79	53	88	43	83	40	80	50	82	42	80	48	83	52	83	51	82	43	82	46	82	47	81	43	80	36	83	38
6....	87	62	90	49	84	40	84	55	85	47	82	55	87	63	89	60	85	54	90	68	85	51	80	45	73	39	80	43
7....	87	59	89	48	86	48	84	56	91	51	82	54	88	59	88	54	86	49	86	52	84	57	76	52	72	41	74	46
8....	84	61	91	49	85	46	85	57	82	53	81	56	87	59	88	57	84	51	86	53	84	56	76	54	74	60	73	59
9....	86	61	90	50	88	51	85	60	87	54	84	59	87	60	86	56	85	52	87	61	85	59	78	62	70	62	74	62
10....	87	63	93	54	89	52	85	61	94	57	86	61	87	64	88	61	87	53	86	59	88	63	81	55	76	57	78	61
11....	75	50	73	56	75	57	75	55	80	60	72	52	77	52	75	50	76	54	74	50	72	63	80	55	79	58	78	48
12....	70	43	73	36	71	40	69	52	68	42	67	46	72	44	73	38	68	41	79	36	70	45	59	44	61	41	60	42
13....	73	50	72	39	73	37	75	49	70	42	72	44	76	51	78	42	75	38	78	40	77	43	65	45	61	40	62	47
14....	77	52	80	34	75	32	76	45	77	36	73	42	79	48	81	42	77	37	79	55	78	45	72	35	74	31	73	34
15....	76	56	82	35	80	32	76	47	76	38	77	44	79	49	81	45	78	39	79	41	78	46	72	39	72	43	72	43
16....	76	56	83	38	82	40	81	51	84	41	78	48	80	53	81	48	79	43	77	47	80	49	75	46	75	42	74	49
17....	68	57	75	46	78	40	74	57	81	44	73	52	72	59	71	50	74	52	70	60	74	54	76	46	73	42	74	42
18....	57	48	55	54	72	53	67	55	69	51	67	55	69	50	68	52	67	54	69	53	65	57	68	55	67	50	66	53
19....	50	45	50	45	53	40	58	46	63	53	55	46	51	45	54	45	59	48	53	45	57	50	62	48	50	47	54	48
20....	46	34	44	42	45	36	46	36	39	38	46	34	45	30	46	33	48	35	46	33	42	38	48	34	48	38	48	33
21....	40	32	46	32	48	32	53	31	47	30	49	32	49	32	52	27	50	29	55	24	58	30	44	31	49	30	38	25
22....	64	35	70	25	66	29	65	36	70	31	67	35	68	40	65	40	68	34	68	38	68	30	55	28	68	20	53	22
23....	59	49	67	36	68	43	58	51	67	34	63	41	60	54	69	46	61	48	61	40	57	46	62	40	68	29	55	35
24....	57	53	61	42	72	45	66	47	70	40	73	47	61	49	60	49	72	54	57	48	56	53	64	49	58	47	58	46
25....	64	47	64	50	68	47	66	45	68	45	56	44	67	49	70	47	64	66	43	47	57	52	64	50	57	45	64	50
26....	66	41	67	32	72	42	70	41	70	42	66	41	71	43	74	39	69	38	73	37	72	40	65	39	60	42	61	38
27....	61	41	78	36	70	47	59	42	75	36	68	42	58	40	59	39	60	43	59	38	57	52	66	34	67	30	67	31
28....	45	39	50	39	68	40	48	37	43	40	44	41	51	40	53	38	47	40	61	38	56	40	54	35	68	42	59	33
29....	46	33	48	42	50	39	56	34	51	36	54	38	46	34	50	32	51	29	44	33	54	36	55	31	60	28	55	28
30....	42	34	41	33	48	32	51	33	39	35	46	33	46	35	46	31	42	34	49	27	50	33	40	32	43	33	42	34
31....	42	32	50	31	42	36	51	35	44	33	48	34	48	28	52	26	47	27	51	24	53	30	43	30	42	34	39	27
Mins.	66.4	48.4	70.0	42.5	71.1	42.5	60.5	48.1	70.0	43.7	68.1	46.5	69.1	48.4	71.1	45.2	68.8	43.8	70.0	44.5	69.6	47.6	65.2	43.8	64.4	41.5	63.7	42.4

^{a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.}^{§§} Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.